

18. Support for newly presented claim 31 is found in Figure 5. Support for newly presented claim 32 is found on page 6, lines 22-30. Support for newly presented claim 33 is found on page 6, lines 32-35. Support for newly presented claim 34 is found on page 7, lines 18-23. Support for newly presented claim 35 is found on page 7, lines 18-23. Support for newly presented claims 36 and 37 is found on page 7, lines 23-27. Support for newly presented claim 38 is found on page 13, lines 15-18. Support for newly presented claim 39 is found in Figure 5. Support for newly presented claims 40 and 41 is found on page 10, lines 7-11. Support for newly presented claims 42 and 41 is found on page 11, lines 9-11.

It is submitted that no new matter is introduced by these new claims.

Claim Objections

Claims 14-19 were objected to. These claims have been cancelled. It is submitted that this ground for objection has been overcome.

Claim Rejections - 35 USC § 103

Claims 14-19 were rejected under 35 USC § 103(a) as unpatentable over Meeks, U.S. Patent 5,830,092 ("Meeks"), in view of Zocher, U.S. Patent 3,340,586 ("Zocher").

Meeks discloses a tennis ball having an outer felt fabric comprising at least two layers of non-woven fabric with the outer layer having a weight ratio

of wool therein greater than 45% and the inner or bottom layer having a weight ratio of wool therein less than 40%. Abstract.

Meeks teaches the problems with using felt produced by needlepunch technology in tennis balls.

The problem with the needlepunch technology has been that it produces a stiffer more rigid material that does not meet all of the above stated requirements of the ball manufacturers. Prior to this invention, production levels dropped off in many cases as much as 50% in order to produce a finished tennis ball that even approached the cosmetic quality level of balls produced from the traditional method. Prior to the introduction of this invention, the commercial success of needlefelt was limited to practice balls or casual players who are not as particular as to the appearance of the finished balls and require minimum performance characteristics.

Meeks, column 1, line 60, to column 2, line 5 (emphasis added).

Meeks teaches:

- (1) needlepunch technology produces a stiffer more rigid material that does not meet all the requirements of the ball manufacturers, and
- (2) needlefelt is limited to practice balls or casual players who are not as particular as to the appearance of the finished balls and require minimum performance characteristics.

Meeks solution to this problem is to produce a ball comprising a complex covering comprising least two layers of non-woven fabric.

By manufacturing the tennis felt **11** in layers independently, the wool content (as defined as the weight ratio of

wool fibers to other fibers in that given layer) can be altered to create a differential between the top layer and the bottom layer.

Meeks, column 2, lines 21-25.

Meeks further teaches that the differential wool content between the layers is responsible for the success of the product.

The claim in all cases in that the differential in wool content is responsible for the success of the product.

Meeks, column 2, lines 53-55. (emphasis added)

Meeks teaches away from applicant's invention. The person of ordinary skill in the art, having the advantage of the teachings of Meeks, would not be motivated to use the needlefelt recited by applicant's claims as the covering for a tennis ball because a one layer needlefelt covering would negate the improved playing characteristics provided by the complex covering taught by Meeks. Instead, person of ordinary skill in the art would use layers of differing fiber content to solve the problem.

The negative teachings of Meeks are not overcome by Zocher. The Office position is that Zocher teaches that the felt needled process disclosed in his patent results in a stronger, more cohesive fabric, and that the more cohesive felt would result in a more durable tennis ball capable of withstanding harder impact. Paper 14, page 3, lines 17-21. As expressly taught by Meeks in the passage reproduce above ("[t]he problem with the needlepunch technology has been that it produces a stiffer more rigid material"), the problem is not one of durability and the ability to withstand harder impact. The problem is one of stiffness and the deterioration in play characteristics produced by a more rigid

ball. "Play characteristics" include such items as: felt cover wear, fluff cover fluff level, feel off racquet, weight off racquet, speed of flight, control of spin, rebound spin, rebound speed, and rebound angle (*See*, Brasier Declaration, page 2, ¶ 6) rather than the ability of the ball to withstand a harder impact. Thus, Zocher provides no motivation to combine his teachings with those of Meeks.

The Office has not made the *prima facie* case. Meeks teaches away from applicant's invention. A reference that teaches away from an invention cannot make it obvious and cannot be combined to make an invention obvious. Further, there is no motivation to combine the teachings of Meeks and Zocher. Thus, it is submitted that the rejection of claims as unpatentable over Meeks in view of Zocher should be withdrawn.

Although the Office has not made the *prima facie* case, applicant has submitted evidence of unexpected results. Applicant has submitted a Declaration by Alan John Brasier, the named inventor of the above-captioned application and an employee of Milliken Industrials Limited, the assignee of the above-captioned application. Play characteristics of the ball of the invention were evaluated by four professional tennis players. The players rated the balls on the following playing characteristics: felt cover wear, fluff cover fluff level, feel off racquet, weight off racquet, speed of flight, control of spin, rebound spin, rebound speed, rebound angle, and overall performance. Brasier Declaration, page 2, ¶6.

From the results of these evaluations, Mr. Brasier concludes:

From these results I form my professional opinion that the tennis balls of the invention are of better quality as they are able to maintain good playing characteristics for a substantially longer period of time than conventional needlepoint balls. This is particularly advantageous as one of the major problems in tennis is the rapid deterioration in quality of the needlefelt balls used, which in turn necessitates the use of a considerable number of new balls within a match in order to maintain an acceptable minimum standard of play.

The tennis balls of the invention maintained good playing characteristics for a substantially longer period of time than conventional needlepoint balls. These results are unexpected. The art teaches that a needlepoint covering causes deterioration in play characteristics.

Applicant has shown unexpected results. These findings have not been contested by the Office. Paper 14, page 3, lines 11-12. Even if the Office has made the *prima facie* case, it has been overcome by the showing of unexpected results.

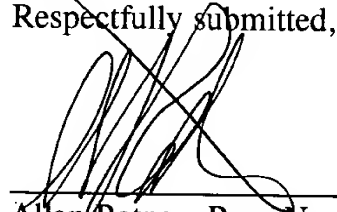
Extension of Time

A check in the amount of \$400 for a two-month Extension of Time accompanies this response. Pursuant to 37 C.F.R. § 1.136(a)(3) a separate petition for an extension of time is not being submitted. The Assistant Commissioner is respectfully requested to consider this check as a constructive petition for an extension of time.

Conclusion

It is respectfully submitted that the claims are in condition for immediate allowance and a notice to this effect is earnestly solicited. The Examiner is invited to phone applicant's attorney if it is believed that a telephonic or personal interview would expedite prosecution of the application.

Respectfully submitted,



Allan Ratner, Reg. No. 19,717

Bruce M. Monroe, Reg. No. 33,602

Attorneys for Applicant

AR/lk

Dated: September 18, 2002

Suite 301

One Westlakes, Berwyn

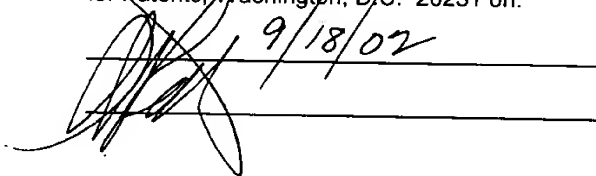
P.O. Box 980

Valley Forge, PA 19482-0980

(610) 407-0700

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

Claims 14-19 have been cancelled.

Claims 26-43 are newly presented.